



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,968	03/27/2001	Eliot M. Case	1817 (USW 0620 PUS)	9855

22193 7590 09/24/2003

QWEST COMMUNICATIONS INTERNATIONAL INC
LAW DEPT INTELLECTUAL PROPERTY GROUP
1801 CALIFORNIA STREET, SUITE 3800
DENVER, CO 80202

EXAMINER

TRAN, VINCENT V

ART UNIT	PAPER NUMBER
----------	--------------

2655

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,968

Applicant(s)

CASE ET AL.

Examiner.

vincent v tran

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang et al. (U.S. Patent No. 5,913,193).

Referring to claims 1 and 9, Huang et al. discloses a method for converting a text to a concatenated voice (col.1, ln.66-67) by utilizing a digital voice library and a set of playback rules (col.4, ln.24-46), the digital voice library (the combination of the dictionary storage (Fig.1A, element 22), letter-to-phoneme rule storage (Fig.1A, element 40) and the unit storage (Fig.1, element 28)) including a plurality of speech items (phoneme string) (col.4, ln.18-31) and a corresponding plurality of voice recordings (the corresponding string of diphones) (col.4, ln.48-60) wherein each speech item corresponds to at least one available voice recording (col.4, ln.39-60) wherein multiple voice recordings that correspond to a single speech item represent various inflections of that single speech item (col.4, ln.48-53), the method including receiving text data, converting the text data into a sequence of speech items in accordance with a storage (col.4, ln.26-39), the method further comprising:

establishing multiple voice recording in the digital library that correspond to a single inflection of a single speech item, for a plurality of inflections of a plurality of

Art Unit: 2655

speech items, that represent various ligatures (diphone string) for the single inflection of the single speech item with adjacent speech items (col.4, ln.39-60; Fig.6A , elements 134, 136 and Fig.6B);

determining a desired inflection for each speech item in the sequence of speech items based on the set of playback rules;

determining a sequence of voice recordings by determining a voice recording for each speech item based on the desired inflection for the particular speech item, the available voice recordings that correspond to the particular speech item, and the ligatures for the particular speech item with adjacent speech items; and

generating voice data based on the sequence of voice recording by concatenating adjacent recordings in the sequence of voice recordings (col.2, ln.49-62; col.4, ln.10-60 and Fig.7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent No. 5,913,193).

Referring to claims 2-4 and 10-12, Huang et al. discloses the method of converting text to concatenated voice for plurality of inflections of a plurality of speech items, represent various beginning or/and ending ligatures for beginning or/and ending phonemes of a single inflection of a single speech item with ending or/and beginning phonemes of adjacent speech items (ending phoneme –|s|– with beginning phoneme –|h|– ... Fig.6A), and

wherein determining the sequence of voice recordings by determining a voice recording for each speech item is further based on beginning or/and ending ligatures for beginning or/and ending phonemes of the particular speech item with ending or/and beginning phonemes of adjacent speech items (col.1, ln.66 – col.2, ln.9; col.3, ln.1-6; col.6, ln.22-39, Fig.3A&B; col.8, ln.63 – col.9, ln.17, Fig.6A&B).

Huang et al. does not specifically mention multiple voice recordings in the digital voice library that correspond to a single inflection of the single speech item.

However, Huang et al. suggests this by collecting and storing multiple voice recordings representing diverse phonetic contexts from different users during the training phase (col.2, ln.58-67).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to retain stored multiple voice recordings from the different users in the unit storage that correspond to a single inflection of single speech item in order to generate natural sounding speech representing different ages or gender of speakers.

Referring to claims 5-8 and 13-16, Huang et al. further discloses the method of above, wherein the ligatures include ligatures associated with vowel staging (l, e and a from "This is great"), consonant stage (t, h, g, r and t from "This is great"), and fricative consonant (s from "This is great") stage (col.6, ln.22-39, Fig.3A&B; col.8, ln.63 – col.9, ln.17, Fig.6A&B).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sharman (U.S. Patent No. 5,774,854) teaches the text to speech system is responsible for receiving an input text, and breaking it down to into a sequence of phonemes, reproducing and concatenating them into the desired acoustic output, and Malsheen et al. (U.S. Patent No. 4,979,216) teaches a text to speech conversion system which converts specified text string into corresponding strings of consonant and vowel phonemes. Those are considered pertinent to the claimed invention.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner **Vincent V. Tran** whose E-mail address:

Vincent.tran@USPTO.GOV.

Phone number: (703) 305-1817

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached on (703) 305-4827. Any inquiry of a general nature or relating to the status of this application or **IF PAPER IS MISSING FROM**

Art Unit: 2655

**THIS OFFICAL PACKAGE, PLEASE CALL Technology Center 2600 Customer
Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

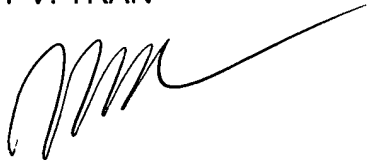
Or faxed to:

(703) 872-9314


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Dr,
Arlington VA, Sixth Floor (Receptionist, Tel. No. 703-305-4700).

Art Unit 2655

VINCENT V. TRAN



Date: August 15, 2003



TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER